

APRIL/MAY 2023

**FBT11/CBT11 — CELL BIOLOGY AND  
EVOLUTION**

Time : Three hours

Maximum : 75 marks

**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.



1. List out any two functions of plasma membrane.
2. What are the functions of cytoskeleton?
3. What is the role of nucleolus?
4. What is perinuclear space?
5. Define Crossing.
6. What is the function of chiasmata?
7. Where does negative selection occur?
8. What is UPGMA?
9. What do you mean rooted trees?
10. Define the term competition.



SECTION B — ( $5 \times 5 = 25$  marks)

Answer ALL questions.

11. (a) Explain about cytoskeleton and its types.

Or

- (b) Differentiate Prokaryotic and Eukaryotic cells.

12. (a) Explain the structure and functions of Ribosomes.

Or

- (b) Discuss the structure and functions of plastids.

13. (a) Describe the various stages of Mitosis.

Or

- (b) Categorize the events that occur in the cell renewal process.

14. (a) Compare and contrast Lamarckism and Darwinism.

Or

- (b) Discuss the four modes of speciation.

15. (a) Comment on  
(i) genetic variation  
(ii) genetic drift

Or

- (b) Distinguish cladogram and phylogram.

SECTION C — ( $3 \times 10 = 30$  marks)

Answer any THREE questions.

16. Discuss the structure of animal cell with suitable example.
17. Demonstrate the structure and functions of Golgi complex.
18. Explain the different phases of Meiosis.
19. Discuss in detail about microevolution and macroevolution.
20. Briefly explain the different types of phylogenetic trees.